

PATENT APPLN. NO. 10/633,418
RESPONSE UNDER 37 C.F.R. §1.111

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REMARKS

Claim 5 has been rejected under the second paragraph of 35 U.S.C. § 112 as being indefinite for the reason that the limitation "said negative and positive electrode assemblies" in line 2 does not have proper antecedent basis.

Claim 5 has been amended to overcome this rejection by changing the limitation "said negative and positive electrode assemblies" to --said negative and positive electrode terminal assemblies--.

Removal of the 35 U.S.C. 112 rejection of claim 5 is believed to be in order and is respectfully requested.

Claims 1-3 are rejected under 35 U.S.C. 102(a) as being anticipated by Uemoto et al. (JP 2002-075323) (hereinafter: "Uemoto"). The position of the Office is that claims 1-3 read on the battery disclosed in Uemoto. More particularly, the limitation "one or more than one connecting piece, which is protrusively formed on a surface of the current collector plate and extends in the direction of the axis of the electrode unit on a side of said current collector plate not connected to said edge of an electrode" recited in claim 1 of the application is indicated to read on the "heights 25a" of the positive-electrode collector 25 of Uemoto and the limitation "base portion of said one of said negative and

positive electrode terminal assemblies" recited in claim 1 of the application is indicated to read on the "filter 28" (with holes 28a) of Uemoto.

The Office also takes the position that Uemoto also discloses "a base portion '28' of the positive terminal comprising a flange portion that is connected to an outer circumferential wall of the heights by laser welding (See paragraph [0023] and Drawing 1)."

Claim 1 has been amended to ensure a patentable distinction between the battery of the present invention and the battery of Uemoto. Claim 1 as amended recites that the current collector plate of the battery of the present invention has one or more than one connecting piece which is protrusively formed on a surface of the current collector plate and extends in the direction of the axis of the electrode unit on a side of the current collector plate not connected to the edge of an electrode, the one or more than one connecting piece being welded to a flange portion of a base portion of one of the negative and positive electrode terminal assemblies, the flange portion extending from the base portion in the direction of the axis of the electrode unit on a side of the base portion facing the current collector, to form a welded surface between the one or more than one connecting piece and the flange portion of the

base portion extending in the direction of the axis of the electrode unit.

Claim 2 has been amended to recite that the flange portion is a cylindrical flange portion and is connected to an inner circumferential wall or outer circumferential wall of the one or more than one connecting piece. The amendment to claim 2 is supported in the specification on page 15, line 12.

Claim 3 has been amended for consistency with the amendment to claim 2.

A new claim, claim 6, has been added to the application. Claim 6 corresponds to claim 1 as amended and includes the further limitation that the current collector plate has arc-shaped protrusions which extend in the direction of the axis of the electrode unit and contact the edge of a respective electrode. This additional limitation is supported in the specification, inter alia, on page 14 and in the drawings (See Figs. 2, 4 and 5).

In the present invention, flange portion 70 of terminal connecting part 71 as shown in the drawings protrudes downward (i.e., toward electrode 4), such that there is a space surrounded by flange portion 70. Bottom end part 78a of rivet 76 and connecting piece 63 are located in this internal space. It is thus possible to effectively use the internal space in the battery

because two distinct parts are located in the same space. It also makes it possible to reduce battery height since both parts overlap in the direction of battery height. Furthermore, the welding location of connecting piece 63 can be adjusted in the height direction (heightwise) of flange portion 70 to compensate for variations in the height of electrode 4.

Filter 28 of Uemoto (JP 2002-75323) does not have a flange portion as required in the present invention. Hole 28a of filter 28 is not a flange portion extending from a base portion in the direction of the axis of the electrode unit on a side of the base portion facing the current collector (and is not a cylindrical flange portion as recited in claim 2). Cap 32 is not in the same space as "heights" 25a, and the cap is higher than heights 25a. Therefore, the battery cannot efficiently use space and cannot reduce battery height. Furthermore, adjustment of height between heights 25a and hole 28b is only possible within a range of thickness of filter 28, and cannot compensate for a height variation of the electrode.

Uemoto also does not disclose a current collector plate having arc-shaped protrusions which extend in the direction of the axis of the electrode unit and contact the electrode as recited in new claim 6.

For the above reasons, Uemoto does not support a case of anticipation under 35 U.S.C. § 102 of claims 1-3 (or of new claim 6) and removal of the 35 U.S.C. § 102 rejection is in order.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uemoto in view of Sakamoto (JP 2000-090908) (hereinafter: "Sakamoto").

Sakamoto has been cited only as disclosing an electrode terminal assembly comprising a connector, an insulator which electrically insulates the lid of the battery from the terminal connector and a rivet connecting the terminal connector and insulator to the lid. Sakamoto does not overcome the deficiencies of Uemoto explained above. Therefore, claim 5, which depends on claim 1, is *prima facie* patentable.

Removal of the 35 U.S.C. § 102 and 35 U.S.C. § 103(a) grounds of rejection and an allowance of the claims of the application are in order and are respectfully solicited.

The foregoing is believed to be a complete and proper response to the Office Action dated April 24, 2007, and is believed to place this application in condition for allowance. If, however, minor issues remain that can be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number indicated below.

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In the event that this paper is not considered to be timely filed, applicants hereby petition for an appropriate extension of time. The fee for any such extension may be charged to Deposit Account No. 111833.

In the event any additional fees are required, please also charge Deposit Account No. 111833.

Respectfully submitted,

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